

In the Claims:

1. (Currently amended) A process for the fabrication of isolation structures with the following process steps
- provision of a semiconductor substrate (11),
- forming of at least two trenches (12) spaced from each other in the semiconductor substrate (11) with at least one rib (13) positioned remaining entirely between the trenches (12),
- conversion of the substrate material in the area of the trenches (12) into an electrically insulating material (14) ~~up to the~~ comprising complete conversion of the entire rib or the ribs (13), and arranged between them,
- forming of a functional structure (15) within the substrate material which functional structure is mechanically connected with the substrate exclusively by ~~means of~~ the converted substrate material which is formed at the trenches.
2. (Previously presented) A process according to claim 1, characterized in that silicon is used as semiconductor substrate.
3. (Previously presented) A process according to claim 2, characterized in that the substrate material is converted by means of thermal oxidation.

Claims 4 to 6 (Canceled).

1 7. (Currently amended) A process according to claim 1,
2 characterized in that a continuous insulating oxide
3 structure (14) ~~over longer distances~~ is created by means of
4 a continuous arrangement of trenches (12) and ribs (13)
5 between them.

1 8. (Currently amended) A process according to claim 1,
2 characterized in that ~~with greater widths of the ribs (13),~~
3 the process step of conversion is a multi-step process.

1 9. (Previously presented) A process according to claim 8,
2 characterized in that after a first process step of the
3 conversion, the so created converted material is removed
4 and thereafter the remaining material is converted in a
5 second process step of the conversion.

1 10. (New) A method of fabricating a device including a
2 micromechanical functional structure comprising:
3 a) providing a substrate of a semiconductor material;
4 b) forming, in said substrate, plural trenches including
5 first and second trenches spaced apart from each other
6 with a rib of said semiconductor material remaining
7 between said first and second trenches;

- 8 c) forming an electrically insulating structure between
9 said first and second trenches and extending
10 continuously along at least one side of said trenches
11 by converting said semiconductor material in said rib
12 and along said at least one side of said trenches to
13 an insulating material, including completely
14 converting all of said semiconductor material of said
15 rib to said insulating material;
- 16 d) forming a micromechanical functional structure in an
17 additional trench in said substrate adjacent to said
18 insulating structure, such that said insulating
19 structure extends between said additional trench and
20 said first and second trenches, said insulating
21 structure extends to a depth into said substrate
22 greater than a depth of said micromechanical
23 functional structure, and a portion of said
24 micromechanical functional structure is mechanically
25 connected to said insulating structure and via said
26 insulating structure to said substrate; and
- 27 e) etching around and under said micromechanical
28 functional structure such that said micromechanical
29 functional structure is mechanically connected with
30 said substrate exclusively by said insulating
31 structure, whereby said micromechanical functional
32 structure is also electrically insulated from said
33 substrate.

1 11. (New) The method according to claim 10, wherein said
2 step a) comprises providing said substrate being of silicon
3 as said semiconductor material.

1 12. (New) The method according to claim 10, wherein said
2 converting of said semiconductor material to said
3 insulating material comprises thermal oxidation of said
4 semiconductor material to form an oxide material as said
5 insulating material.

1 13. (New) The method according to claim 10, wherein said
2 step b) of forming said plural trenches includes forming
3 additional trenches in addition to said first and second
4 trenches, such that said plural trenches are arranged in a
5 row with a respective one of said rib of said semiconductor
6 material remaining respectively between successive ones of
7 said trenches, and said step c) is carried out such that
8 said insulating structure extends continuously along said
9 at least one side of all of said trenches.

1 14. (New) The method according to claim 10, wherein said
2 converting of said semiconductor material in said step c)
3 comprises a multi-stage conversion in order to completely
4 convert all of said semiconductor material of said rib to
5 said insulating material.

1 15. (New) The method according to claim 14, wherein said
2 multi-stage conversion comprises a first conversion of some
3 of said semiconductor material of said rib to a first
4 amount of said insulating material, a step of removing said
5 first amount of said insulating material, and thereafter a
6 second conversion of a remainder of said semiconductor
7 material of said rib to said insulating material.

1 16. (New) The method according to claim 10, wherein said rib
2 has a thickness of less than 2 μm , wherein said converting
3 of said semiconductor material in said rib in said step c)
4 consists of a single thermal oxidation step that completely
5 converts all of said semiconductor material of said rib to
6 said insulating material.

1 17. (New) The method according to claim 10, wherein said
2 trenches and said micromechanical functional structure are
3 each respectively located and configured so that said
4 micromechanical functional structure extends longitudinally
5 aligned with said rib and is longitudinally displaced from
6 said rib with a portion of said insulating structure
7 therebetween.

1 18. (New) The method according to claim 17, wherein said
2 trenches and said micromechanical functional structure are
3 each respectively located and configured so that said first

4 and second trenches and said micromechanical functional
5 structure together form a T-shape.

1 19. (New) The method according to claim 10, further comprising
2 a step of providing a metallic strip running longitudinally
3 along said rib on said insulating structure, and extending
4 onto and electrically contacting said micromechanical
5 functional structure.

1 20. (New) The method according to claim 10, wherein said rib
2 includes all material between said first and second
3 trenches.